

## SYSTEM:OS - DIALOG OneSearch

File 2:INSPEC 1969-2005/Oct W2  
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\*File 2: Archive data back to 1898 has been added to File 2.

File 6:NTIS 1964-2005/Oct W2  
(c) 2005 NTIS, Intl Cpyrght All Rights Res

File 8:Ei Compendex(R) 1970-2005/Oct W2  
(c) 2005 Elsevier Eng. Info. Inc.

File 34:SciSearch(R) Cited Ref Sci 1990-2005/Oct W3  
(c) 2005 Inst for Sci Info

File 434:SciSearch(R) Cited Ref Sci 1974-1989/Dec  
(c) 1998 Inst for Sci Info

File 35:Dissertation Abs Online 1861-2005/Sep  
(c) 2005 ProQuest Info&Learning

File 65:Inside Conferences 1993-2005/Oct W3  
(c) 2005 BLDSC all rts. reserv.

File 94:JICST-EPlus 1985-2005/Aug W3  
(c)2005 Japan Science and Tech Corp(JST)

File 99:Wilson Appl. Sci & Tech Abs 1983-2005/Sep  
(c) 2005 The HW Wilson Co.

File 144:Pascal 1973-2005/Oct W2  
(c) 2005 INIST/CNRS

File 305:Analytical Abstracts 1980-2005/Oct W2  
(c) 2005 Royal Soc Chemistry

\*File 305: Alert feature enhanced for multiple files, duplicate removal, customized scheduling. See HELP ALERT.

File 315:ChemEng & Biotec Abs 1970-2005/Sep  
(c) 2005 DECHEMA

File 350:Derwent WPIX 1963-2005/UD,UM &UP=200567  
(c) 2005 Thomson Derwent

\*File 350: For more current information, include File 331 in your search.  
Enter HELP NEWS 331 for details.

File 347:JAPIO Nov 1976-2005/Jun(Updated 051004)  
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File 344:Chinese Patents Abs Aug 1985-2005/May  
(c) 2005 European Patent Office

File 371:French Patents 1961-2002/BOPI 200209  
(c) 2002 INPI. All rts. reserv.

\*File 371: This file is not currently updating. The last update is 200209.

File 23:CSA Technology Research Database 1963-2005/Oct  
(c) 2005 CSA.

Set	Items	Description
S1	1080	AU=(PAN, A? OR PAN A?)
S2	15	S1 AND (LITHOGRAPH? OR ETCH OR ETCHANT? OR ETCHED OR ETCHING OR ETCHES OR CHASE? OR CHASING? OR ENCHAS? OR ENGRAV? OR E-MBOSS? OR INCIS? OR IMPRINT? OR IMPRESS? OR ENCAUSTIC? OR POLISH? OR PHOTOREIST? OR PHOTO()RESIST?)
S3	2	S2 AND CARRIER?(2N) (SUBSTRAT? OR SURFACE? OR BASE? OR SUBSTRUCT? OR UNDERSTRUCT? OR UNDERLAY? OR FOUNDATION? OR CHIP? ?)
S4	2	RD (unique items)
S5	13	S2 NOT S3
S6	1	S5 AND (CHIP? ? OR SUBSTRAT? OR SURFACE? OR BASE? OR SUBSTRUCT? OR UNDERSTRUCT? OR UNDERLAY? OR FOUNDATION?) (2N)ALIGN?
S7	12	S5 NOT S6
S8	10	RD (unique items)
S9	0	S8 AND IC=(H01L-023/34 OR B41J-002/14 OR B41J-002/145 OR B41J-002/16 OR B41J-002/16M1 OR B41J-002/16M4 OR B41J-002/16M8)
S10	2	S8 AND (INTEGRAT?(2N)STRUCTUR? OR INTEGRAT?(3N) (CIRCUIT? OR LOOP? ?) OR IC OR CHIP? ?)
S11	8	S8 NOT S10
S12	38493	COMMON(2N)CARRIER?
S13	58425	CARRIER?(2N) (SUBSTRAT? OR SURFACE? OR BASE? OR SUBSTRUCT? OR UNDERSTRUCT? OR UNDERLAY? OR FOUNDATION? OR CHIP? ?)
S14	355982	(ADHESI? OR ADHERE? OR STICK? OR CLING? OR BOND? OR CEMENT? OR CONGLUTIN? OR AGGLUTIN? OR MUCILAG?) (2N) (CHIP? ? OR SUBSTRAT? OR SURFACE? OR BASE? OR SUBSTRUCT? OR UNDERSTRUCT? OR UNDERLAY? OR FOUNDATION?)
S15	182719	(TACK? OR GLUE? OR GLUING? OR PASTE? OR PASTING? ? OR GUM? OR HOLD? OR GRIP? OR GRASP? OR BIND?) (2N) (CHIP? ? OR SUBSTRAT? OR SURFACE? OR BASE? OR SUBSTRUCT? OR UNDERSTRUCT? OR UNDERLAY? OR FOUNDATION?)
S16	529510	S14:S15
S17	32473	(CHIP? ? OR SUBSTRAT? OR SURFACE? OR BASE? OR SUBSTRUCT? OR UNDERSTRUCT? OR UNDERLAY? OR FOUNDATION?) (2N)ALIGN?
S18	13642	ALIGN?(2N) (TOLERANC? OR PRECISION?) OR TOLERANC?(2N) (RANG? OR PROCESSING)
S19	45644	S17:S18
S20	79840	(FIRST OR ONE OR TWO OR SECOND) (2N) (RANG? OR TOLERANC?)
S21	1327146	LITHOGRAPH? OR ETCH OR ETCHANT? OR ETCHED OR ETCHING OR ETCHES OR CHASE? OR CHASING? OR ENCHAS? OR ENGRAV? OR EMBOSS? OR INCIS? OR IMPRINT? OR IMPRESS? OR ENCAUSTIC? OR POLISH? OR PHOTO()RESIST?
S22	185722	IC=(H01L-023/34 OR B41J-002/14 OR B41J-002/145 OR B41J-002-/16 OR B41J-002/16M1 OR B41J-002/16M4 OR B41J-002/16M8)
S23	1713289	(INTEGRAT?(2N)STRUCTUR? OR INTEGRAT?(3N) (CIRCUIT? OR LOOP? ?) OR IC OR CHIP? ?)
S24	5036	(THERMOL? OR THERMAL? OR PREHEAT? OR MELT? OR FUSE? OR FUSING? ? OR FUSION?) (2N) (INKJET? ? OR INK()JET? ? OR INK()JETT? ? OR INKJETT? ? OR IC=B41J)
S25	183	S12 AND S13
S26	7	S25 AND S16
S27	7	RD (unique items)
S28	3	S27 AND (S21 OR S22)
S29	4	S27 NOT S28
S30	176	S25 NOT S26
S31	3	S30 AND S19
S32	3	RD (unique items)
S33	173	S30 NOT S31

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10/692,884

S34	0	S33 AND S21
S35	2	S33 AND S22
S36	2	RD (unique items)
S37	171	S33 NOT S35
S38	0	S37 AND S24
S39	0	S37 AND S19
S40	5716	S22 AND S21
S41	170	S40 AND S24
S42	2	S41 AND S13
S43	168	S41 NOT S42
S44	12	S43 AND S16
S45	12	RD (unique items)
S46	12	S45 NOT S26
S47	3533	S13 AND S16
S48	4	S47 AND S24
S49	4	RD (unique items)
S50	3529	S47 NOT S48
S51	75	S50 AND S19
S52	4	S51 AND S21
S53	4	RD (unique items)
S54	71	S51 NOT S52
S55	0	S54 AND S12
S56	0	S54 AND S20
S57	0	S54 AND S21
S58	61	S13 AND S20
S59	16	S58 AND (S22 OR S23 OR S24)
S60	10	RD (unique items)
S61	9	S60 NOT S26,S42,S44,S48,S53
S62	45	S58 NOT S59
S63	2	S62 AND S21
S64	2	RD (unique items)
S65	0	S64NOT S26,S42,S44,S48,S53,S60
S66	233	S24 AND S23
S67	10	S66 AND S19
S68	9	RD (unique items)
S69	2	S64 NOT S26,S42,S44,S48,S53,S60
S70	8	S67 NOT S26,S42,S44,S48,S53,S60,S64
S71	26	S12 AND S16
S72	19	S71 NOT S26,S42,S44,S48,S53,S60,S64,S67
S73	18	RD (unique items)
S74	0	S73 AND S22
S75	2	S73 AND S21
S76	16	S73 NOT S75
S77	0	S76 AND S19
S78	16	S76 AND (S12 OR S13 OR S16 OR S22 OR S23 OR S24)
S79	2	S24 AND S12

20oct05 15:02:22 User259284 Session D3370.2

## SYSTEM:OS - DIALOG OneSearch

File 350:Derwent WPIX 1963-2005/UD,UM &UP=200567  
 File 347:JAPIO Nov 1976-2005/Jun(Updated 051004)  
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 File 8:Ei Compendex(R) 1970-2005/Oct W2  
 File 14:Mechanical and Transport Engineer Abstract 1966-2005/Oct  
 File 25:Weldasearch-19662005/Sep (c) TWI Ltd  
 File 31:World Surface Coatings Abs 1976-2005/Oct  
 File 33:Aluminium Industry Abstracts 1966-2005/Oct  
 File 34:SciSearch(R) Cited Ref Sci 1990-2005/Oct W3  
 File 35:Dissertation Abs Online 1861-2005/Sep  
 File 36:MetalBase 1965-20051017  
 File 46:Corrosion Abstracts 1966-2005/Oct  
 File 56:Computer and Information Systems Abstracts 1966-2005/Oct  
 File 57:Electronics & Communications Abstracts 1966-2005/Oct  
 File 60:ANTE: Abstracts in New Tech & Engineer 1966-2005/Oct  
 File 61:Civil Engineering Abstracts. 1966-2005/Oct  
 File 63:Transport Res(TRIS) 1970-2005/Aug  
 File 64:Environmental Engineering Abstracts 1966-2005/Oct  
 File 65:Inside Conferences 1993-2005/Oct W3  
 File 68:Solid State & Superconductivity Abstracts 1966-2005/Oct  
 File 81:MIRA - Motor Industry Research 2001-2005/Aug  
 File 94:JICST-EPlus 1985-2005/Aug W3  
 File 95:TEME-Technology & Management 1989-2005/Sep W2  
 File 96:FLUIDEX 1972-2005/Oct  
 File 99:Wilson Appl. Sci & Tech Abs 1983-2005/Sep  
 File 103:Energy SciTec 1974-2005/Sep B1  
 File 104:AeroBase 1999-2005/Oct  
 File 118:ICONDA-Intl Construction 1976-2005/Oct  
 File 134:Earthquake Engineering Abstracts 1966-2005/Oct  
 File 144:Pascal 1973-2005/Oct W2  
 File 239:Mathsci 1940-2005/Nov  
 File 240:PAPERCHEM 1967-2005/Oct W3  
 File 248:PIRA 1975-2005/Oct W1  
 File 293:Engineered Materials Abstracts 1966-2005/Oct  
 File 315:ChemEng & Biotec Abs 1970-2005/Sep  
 File 323:RAPRA Rubber & Plastics 1972-2005/Sep  
 File 335:Ceramic Abstracts/World Ceramics Abstracts 1966-2005/Oct  
 File 434:SciSearch(R) Cited Ref Sci 1974-1989/Dec

Set	Items	Description
S1	111	TOLERANCE? ?(2N)LITHOGRAPH?
S2	115	TOLERANC????(2N)LITHOGRAPH?
S3	36	S2 AND ALIGN???????
S4	29	S3 AND (CHIP? ? OR MICROCHIP? OR CIRCUIT? OR MICROCIRCUIT OR SEMICONDUCT? OR SI OR SILICON OR WAFER? ? OR MICROELECTRONIC? ? OR MCM OR SOI)
S5	3	S3 AND (PACKAG? OR CARRIER? ?)
S6	0	S3 AND MONOLITH?
S7	0	S3 AND PELLIC?
S8	4	S3 AND (ADHE??????? OR MOUNT????? OR GLUE????? OR GLUING)
S9	2	S3 AND (INKJET? OR JET OR JETS OR JETT????? OR PRINT????? OR PRINthead? OR IC=B41J?)
S10	1	S3 AND COMMON
S11	7	S5:S10

11/9/3 (Item 1 from file: 2)

DIALOG(R) File 2:INSPEC

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06705556 INSPEC Abstract Number: B9711-6260-070

**Title:** Micro-optical and opto-mechanical systems fabricated by the LIGA technique

**Author(s):** Mohr, J.; Gottert, J.; Muller, A.; Ruther, P.; Wengeling, K.

**Author Affiliation:** Inst. fur Mikrostrukturtechnik, Forschungszentrum Karlsruhe, Germany

**Journal:** Proceedings of the SPIE - The International Society for Optical Engineering Conference **Title:** Proc. SPIE - Int. Soc. Opt. Eng. (USA) vol.3008 p.273-8

**Publisher:** SPIE-Int. Soc. Opt. Eng,

**Publication Date:** 1997 **Country of Publication:** USA

**CODEN:** PSISDG **ISSN:** 0277-786X

**SICI:** 0277-786X(1997)3008L:273:MOOM;1-Z

**Material Identity Number:** C574-97108

**U.S. Copyright Clearance Center Code:** 0 8194 2419 6/97/\$10.00

**Conference Title:** Miniaturized Systems with Micro-Optics and Micromechanics II

**Conference Sponsor:** SPIE

**Conference Date:** 10-12 Feb. 1997 **Conference Location:** San Jose, CA,

**Language:** English **Document Type:** Conference Paper (PA); Journal Paper

**Treatment:** Applications (A); Practical (P); Experimental (X)

**Abstract:** The LIGA process is used to fabricate micro-optical benches which allow hybrid **mounting** of active and passive optical components with very high precision and without active **alignment**. Moreover, micromechanical structures such as electromechanical actuators may also be fabricated on the same substrate. In order to avoid any lateral misalignment, all fixing structures in the optical bench are produced in the lithography step. Due to the high precision of X-ray **lithography**, lateral **tolerances** are in the range of 0.1 to 0.2  $\mu\text{m}$ , depending on thermal distortions, and thus optical losses for these components are rather small. The potential of the free space concept based on LIGA technology for the fabrication of devices for optical telecommunications has been demonstrated by a bidirectional transceiver module as well as an optical bypass. In the case of the optical bypass element, a movable mirror is fabricated on the substrate together with the fixing elements. This movable mirror is the end face of an electrostatic actuator which allows movement of the mirror into the collimated light beam between two fibers, thus changing the direction of the light. For the early prototypes, the losses in the beam without the mirror are about 1.7 dB, whereas the losses in the deflected beam are about 4.5 dB. (12 Refs)

**Descriptors:** electroforming; electrostatic devices; microactuators; micromachining; micromechanical devices; mirrors; optical elements; optical fabrication; optical fibre communication; optical losses; optical receivers; optical transmitters; transceivers; X-ray lithography

**Identifiers:** micro-optical systems fabrication; opto-mechanical systems fabrication; LIGA technique; LIGA process; micro-optical benches; hybrid **mounting**; active optical components; passive optical components; micromechanical structures; electromechanical actuators; fixing structures; lateral misalignment; X-ray lithography; lateral tolerances; thermal distortion; optical losses; free space concept; optical telecommunications devices; bidirectional transceiver module; optical bypass element; movable mirror; electrostatic actuator; 1.7 dB; 4.5 dB

11/9/5 (Item 1 from file: 144)

DIALOG(R)File 144:Pascal

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14528688 PASCAL No.: 00-0193429

**Transferred-substrate HBTs with 254 GHz f tau**

MENSA D; LEE Q; GUTHRIE J; JAGANATHAN S; RODWELL M J W

Univ of California, Santa Barbara CA, United States

Journal: Electronics Letters, 1999, 35 (7) 605-606

ISSN: 0013-5194 CODEN: ELLEAK Availability: INIST-12270

No. of Refs.: 6 Refs.

Document Type: P (Serial) ; A (Analytic)

Country of Publication: United Kingdom

Language: English

Advances in device technology for heterojunction bipolar transistors (HBT) are necessary to further improve the performance of associated high speed analogue and digital circuitry. The transferred-substrate process has yielded a HBT device with record current gain cutoff frequency f tau of 254 GHz. The acquisition of a stepper **alignment** tool allows for a reduction in the base size and all **alignment tolerances**. With this **lithographic** capability the frequency performance of transferred-substrate HBT are increased dramatically.

English Descriptors: Transferred-substrate process; Current gain cutoff frequency; Theory; Substrates; Molecular beam epitaxy; Semiconductor growth; Silicon wafers; Computational methods; Capacitance; Lithography; Semiconductor device models; Heterojunction bipolar transistors

French Descriptors: Theorie; Substrat; Epitaxie **jet** moleculaire; Croissance semiconducteur; Pastille electronique; Methode calcul; Capacite electrique; Lithographie; Modele dispositif semiconducteur; Transistor bipolaire heterojonction

Classification Codes: 001D03F; 001D03C; 001B30; 001B80A10; 001A02

11/9/6 (Item 2 from file: 144)  
 DIALOG(R) File 144:Pascal  
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13736119 PASCAL No.: 98-0428420  
 Tolerancing of electron beam lithography columns  
 LIU H; ZHU X; MUNRO E; ROUSE J A  
 HATZAKIS M, ed; GOGOLIDES E, ed  
 Munro's Electron Beam Software Ltd., 14 Cornwall Gardens, London SW7 4AN,  
 United Kingdom  
 NCSR Demokritos, Aghia Paraskevi, Greece  
 Micro- and Nano-Engineering MNE 97 International Conference on Micro- and  
 Nanofabrication (Athens GRC) 1998-09-15  
 Journal: Microelectronic engineering, 1998, 41-42 163-166  
 ISSN: 0167-9317 CODEN: MIENEF Availability: INIST-20003;  
 354000075085350330

No. of Refs.: 14 ref.

Document Type: P (Serial); C (Conference Proceedings) ; A (Analytic)

Country of Publication: Netherlands

Language: English

A new software **package** has been developed for the tolerancing of complete electron and ion beam columns. The software computes the asymmetry aberrations caused by small mechanical imperfections in the construction and **alignment** of the lenses and deflectors. The imperfections considered include misalignments, tilts and ellipticities of individual polepieces, electrodes, coil windings and deflection plates. The asymmetry fields due to these mechanical errors are computed by perturbation methods, and the resulting parasitic aberrations are evaluated with asymmetry aberration integrals. The effects of aberration correction elements, such as **alignment** coils and stigmators, are also handled by the software. The overall effects of the aberrations can be displayed graphically. Illustrative results are presented for nanolithography and high-throughput lithography systems.

English Descriptors: Microelectronic fabrication; Electron beam lithography ; Ion beam **lithography**; **Tolerance**; Ion optics; Electron optics; **Alignment**; Geometrical factor; Asymmetry; Software **package**

French Descriptors: Fabrication microelectronique; Lithographie faisceau electron; **Lithographie** faisceau ionique; **Tolerance**; Optique ionique; Optique electronique; **Alignement**; Facteur geometrique; Asymetrie; Proiciel; Aberration

Classification Codes: 001D03F17

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